

IN THE CLAIMS:

Please cancel Claims 11 - 25 without prejudice, since these claims are under a restriction requirement. Please amend Claims 1 - 9, and add new claim 26, as follows.

1. (Currently Amended) An apparatus for vapor deposition of coatings having a thickness ranging from about 5 Å to about 1,000Å, where at least one coating precursor used for formation of said coating exhibits a vapor pressure below about 150 Torr at a temperature of 25 °C, the apparatus ~~comprising~~ consisting essentially of:

at least one coating precursor container in which said at least one coating precursor, in the form of a liquid or a solid, is placed;

at least one coating precursor vapor reservoir for holding vapor of said at least one coating precursor;

at least one device which controls coating precursor vapor flow from said at least one coating precursor container into said at least one coating precursor vapor reservoir which corresponds with said at least one coating precursor container, wherein said device responds to a signal from a process controller;

a at least one coating precursor vapor reservoir pressure sensor which corresponds with each said at least one pressure vapor reservoir, which pressure sensor is in communication with said at least one coating precursor vapor reservoir;

a process controller which receives data from said at least one pressure sensor, compares said data with a desired nominal vapor reservoir pressure which corresponds with said at least one coating precursor vapor reservoir, and sends a signal to a corresponding

device which controls vapor flow from said at least one coating precursor container which corresponds with said at least one coating precursor vapor reservoir ~~into said precursor vapor reservoir~~, wherein said signal acts to prevent further vapor flow into said at least one coating precursor vapor reservoir when said desired nominal pressure for that at least one coating precursor reservoir is reached;

~~a device which controls precursor vapor flow into said precursor vapor reservoir upon receipt of a signal from said first process controller;~~

a process chamber for vapor deposition of said coating on a substrate present in said process chamber; and

a device which controls precursor vapor flow from said at least one coating precursor vapor reservoir upon receipt of a signal from said process controller, so that there is a single period of vapor flow or intermittent periods of vapor flow into said process chamber during formation of said coating upon a substrate ~~upon receipt of a signal from said process controller~~.

2. (Currently Amended) An apparatus in accordance with Claim 1, including a at least one additional device which applies heat to said coating precursor while it is in said coating precursor container, to produce a vaporous phase of said coating precursor.

3. (Currently amended) ~~The~~ An apparatus in accordance with Claim 1, or Claim 2, wherein a plurality of coating precursor containers, and a corresponding plurality of coating precursor vapor reservoirs are present.

4. (Currently Amended) ~~The~~ An apparatus in accordance with Claim 1, wherein the following additional elements are present:

at least one catalyst container in which said catalyst, in the form of a liquid or a solid is placed;

at least one catalyst vapor reservoir for holding vapor of said at least one catalyst;

at least one device which controls vapor flow from said catalyst container into said catalyst vapor reservoir which corresponds with said at least one catalyst container, wherein said device responds to a signal from a process controller;

a at least one catalyst vapor reservoir pressure sensor which corresponds with each of said at least one catalyst vapor reservoir, which pressure sensor is in communication with said at least one catalyst vapor reservoir;

a process controller which receives data from said at least one catalyst vapor reservoir pressure sensor, compares said data with a desired nominal catalyst vapor reservoir pressure which corresponds with said at least one catalyst vapor reservoir, and sends a signal to a corresponding device which controls catalyst vapor flow from said at least one catalyst container which corresponds to said at least one catalyst vapor reservoir ~~into said catalyst~~

~~vapor reservoir~~, wherein said signal acts to prevent further vapor flow into said at least one catalyst vapor reservoir when said desired nominal pressure for that at least one catalyst vapor reservoir is reached; and

~~a device which controls catalyst vapor flow into said catalyst vapor reservoir upon receipt of a signal from said process controller; and~~

a device which controls catalyst vapor flow from said at least one catalyst vapor reservoir upon receipt of a signal from said process controller, so that there is a single period of vapor flow or an intermittent period of vapor flow into said process chamber , during formation of said coating upon a substrate ~~upon receipt of a signal from said fourth process controller.~~

5. (Currently Amended) An apparatus in accordance with Claim 3 or Claim 4, wherein said ~~all process controllers reside~~ controller resides in a single process controller which receives data from a plurality of pressure sensors and sends a signal to a plurality of devices which control vapor flow from a plurality of coating precursor containers.

6. (Currently Amended) An apparatus in accordance with Claim 4 or Claim 5, including a at least one device which applies heat to ~~said at least one~~ a coating precursor while it is in said coating precursor container, to produce a vaporous phase of said coating precursor.

7. (Currently Amended) An apparatus in accordance with Claim 4 ~~or Claim 5~~, including a at least one additional device which applies heat to ~~said at least one~~ a catalyst while it is in said catalyst container, to produce a vaporous phase of said catalyst.

8. (Currently Amended) An apparatus in accordance with Claim 4 ~~or Claim 5~~, wherein a ~~plurality of precursor containers, and a corresponding plurality of vapor reservoirs are present~~ an additional element is present in the form of a remote plasma generator which furnishes plasma species to said process chamber.

9. (Currently Amended) An apparatus in accordance with Claim 1 or Claim 2, or Claim 4, or Claim 5 6, wherein said coating thickness ranges from about 5 Å to about 500 Å.

10. (Original) An apparatus in accordance with Claim 9, wherein said coating thickness ranges from about 5 Å to about 300 Å.

11. - 25. (Cancelled)

26. (New) An apparatus in accordance with Claim 1, wherein the following additional element is present, a remote plasma generator which furnishes plasma to said apparatus for vapor deposition of coatings.